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AMBULATORY CARE:

An Annotated Bibliography of Recent Planning Literature

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Syracuse, N.Y.

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AMBULATORY CARE: AN ANNOTATED
BIBLIOGRAPHY OF RECENT
PLANNING RESEARCH

by

Gerald M. Richmond, Jr.

W. David Helms

PREFACE

This annotated bibliography represents an effort to collect and distribute information about ambulatory care research conducted or sponsored by Comprehensive Health Planning Agencies (CHP) and Regional Medical Programs (RMP). ALPHA, in May, 1972, sent a letter to over 100 operational CHP's and 60 RMP's asking for copies of any projects or studies focusing on ambulatory care that were in progress or had been completed. ALPHA received approximately 100 responses. In our initial letter, we promised to put together a bibliography based on information collected. Our thanks to all those who sent us materials; we hope these abstracts adequately capsule the essence of your respective efforts.

ALPHA has found much of this information useful in developing its Ambulatory Care Program. We hope other CHP's and RMP's will benefit from receiving this compilation of materials on the ambulatory care activities of other agencies.

Richard H. Schlesinger

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INTRODUCTION

One of the major goals of this effort was to make available information that has not been published or widely distributed. As a result, articles and books that have been abstracted and listed in regularly published bibliographies have, for the most part, been excluded. The following categories were used to organize the materials in this bibliography. (Where appropriate, items have been listed in more than one category.)

1. The Role of Ambulatory Care. This category includes statements concerning the definitions, goals, and standards for ambulatory care.
2. Conceptual Models for Ambulatory Care Systems. This category includes items relating to how a total system of ambulatory care should be organized.

3. Descriptions and Evaluations of Ambulatory Care Service Settings. This category includes items that describe and/or evaluate existing or proposed components for an ambulatory care system. We have included proposals because we feel they are an especially valuable source of information and innovative conceptual thinking.
4. Inventories and Evaluations of Ambulatory Care Services. This category includes inventories and evaluations of ambulatory care services for geographical areas ranging from the community to the region.
5. Information Systems for Ambulatory Care. This category includes items concerning the development of information systems for ambulatory care data.
6. Ambulatory Care Planning Research Designs. This category includes completed reports, conceptualizations, and proposals relating to ambulatory care planning research. We have divided this category into the following three sub-categories:
 - a.) General
 - b.) Surveys and Questionnaires
 - c.) System Models, Health Status, and Evaluation

In addition to these less publicized materials, we have included a short annotated list of recent publications that we think are especially pertinent to the study of ambulatory care and a list of bibliographies which reference information relating to ambulatory care.

1. THE ROLE OF AMBULATORY CARE

Boshard, Nick et al. Division of Physical Health Planning.
"Position Paper: Ambulatory Health Care." St. Louis, Missouri: ARCH (Alliance for Regional Community Health, Inc.) (915 Olive Street, St. Louis, Missouri 63101).

A conceptual analysis that relates the organization, service range, financing, and manpower for ambulatory care to a concept of need based on 1) health status related goals and 2) equity criteria. The paper has good definitions of different goal oriented components of ambulatory care.

Eberhart, Thomas. "A Study of Selected Ambulatory Health Care Services in Florida," Staff Report for Florida House Committee on Health and Rehabilitative Services. (State of Florida Department of Health and Rehabilitative Services, Division of Planning and Evaluation, Bureau of Comprehensive Health Planning, 908 S. Bronough, Tallahassee, Florida 32304).

This report contains discussion about the role of different types of ambulatory care service settings, a review of five major studies comparing different service settings (done in Kansas, Portland, and Boston), and a report of findings from a survey that compared 61 emergency rooms and 24 outpatient departments in Florida. The survey included a question on the relationship between patient capacity and the effectiveness of their operations.

Governor's Advisory Council for Comprehensive Health Planning.
Handbook for Health Activities and Service Profile, First Version. Jefferson City, Missouri: Office of Comprehensive Health Planning, Missouri Department of Community Affairs, March 1972. (505 Missouri Blvd., Jefferson City, Missouri 65101).

A handbook of questions to be answered when inventorying, evaluating, planning health care services.

McCoy, Mack. "Ambulatory Health Care Facilities, State Policy Study, Status Paper, Draft No. 1," Maryland CHP Agency 1972. (Suite 825 Medical Arts Building, 101 West Read Street, Baltimore, Maryland 21201).

This paper raises the question of how definitions relate to the conceptualizing of research on ambulatory care and how definitions shift with different points of view (e.g. provider, consumer). The paper reviews definitions in the literature and suggests three points of view from which research could be done: speciality, facility, and a modified facility view.

Michigan College of Osteopathic Medicine, Department of Community Medicine. "Proposal for Lakeside Comprehensive Health Service Delivery System," March 1970, submitted through Ziegler/Botsford RMP (Michigan Association for Regional Medical Programs, Suite 200, 1111 Michigan Avenue, East Lansing, Michigan 48823).

Proposal for a comprehensive health center that contains an excellent conceptualization of the relationship between goals, objectives, and programs. The proposal defines and specifies goals (broad policy directions), objectives (the means for implementing goals - 16 are listed), and program approaches (the specific means for operationalizing objectives). The proposal is unique in the criteria and methodologies for evaluating the ability of the program to meet each criteria are specified in advance.

Mid-State Committee on Area-wide Health Planning. "Ambulatory Care a Physician Needs Report", October 1971, Ottilia Nesbit, consultant. (800 Park Avenue, Utica, New York 13501).

A three part report. The first section defines ambulatory care and describes a study of urban and suburban emergency rooms. The second section describes the role of community health centers in providing ambulatory care. The third section describes a mail survey of physician offices and makes projections of physician manpower needs.

Oakes, Charles G., editor. Functional Elements of Outpatient Services. Proceedings of a conference sponsored jointly by Converse College and the South Carolina Hospital Association, Spartanburg, South Carolina: Converse College, March 1971.

This report contains four papers representing the viewpoints of a physician, a nurse, a medical sociologist, and a hospital administrator. The first two papers discuss the role of the outpatient clinic in providing ambulatory care. The third paper analyses and evaluates the utilization, structure (size, speciality, and staffing patterns), and appointment system of a large community hospital in midsouthern metropolitan area. The fourth paper discusses ways to make outpatient clinics a major focal point of ambulatory care by extending services into the community.

Primary Health Care Task Force. "Directory of Terms Related to Primary Health Care, Draft." Miami, Florida: Comprehensive Health Council of South Florida, 1972. (3000 Biscayne Blvd., Suite 312, Miami, Florida 33137).

Primary Health Care Task Force. "Goals and Guidelines for Dade County Regarding Primary Health Care." Miami, Florida: Comprehensive Health Council of South Florida, 1972. (3000 Biscayne Blvd., Suite 312, Miami, Florida 33137).

Tri-State Regional Medical Program and CHP Council of Central Massachusetts. "Protocol for Ambulatory Review," 1971. (1 Boston Place, Suite 2248, Boston, Massachusetts 02108).

Operational definitions of primary and other types of ambulatory services that were used in an ambulatory care review of 19 hospitals in the Worcester County Area. (The analysis for this study is currently being completed by the CHP council).

Young, Kathy. "Memorandum: Ambulatory Care Information for the Ad Hoc Health Planning Data Committee Meeting of September 17, 1971, Department of Public Health." Boston, Massachusetts: Office of Comprehensive Health Planning, Massachusetts C.H.P., 1971. (100 Cambridge Street, Boston, Massachusetts 02202).

Definitions of Ambulatory and Primary Care and the Relationships between the two.

2. CONCEPTUAL MODELS FOR AMBULATORY CARE SYSTEMS

Bartee, Edwin M. and David A. Jensen. "A Model for Community Development." Nashville, Tennessee: Vanderbilt University School of Management.

A conceptual model for introducing new health service based on a case study in a small Tennessee town. The model is called a delivery/acquisition model and is supposed to enable groups to acquire services in terms of their own perceived needs. It is basically a structural-function approach to advocacy planning. The key actors in the model are the "advocates," "gatekeepers," and "sensors" who establish and enable the maintenance of links between providers and consumers of care.

Cole, Clifton A. "Comprehensive Health Services One Door-One Stop Delivery System." Comprehensive Health Planning, Department of Public Health, California. (576 Office Bldg. #6, 744 "P" Street, Sacramento, California 95814).

Gavett, William T. and Arthur R. Jacobs. "Ambulatory Case Classification and Ambulatory Care Planning." Rochester, New York: The University of Rochester, The Graduate School of Management, 1971.

This paper devises a classification system for medical care visits that relates the complexity of the sickness to the complexity of the resources needed to treat it. It proposes the use of three categories of visits as the basis for three types of service settings, each representing a different mix of manpower in terms of specialization. One major concern of the paper is primary care services provided at the entry point to the medical care system and the use of "physician expanders" in bipartite ER departments and group practice.

Governor's Advisory Council for Comprehensive Health Planning. Accessibility to Health Services Report. Jefferson City, Missouri: Office of Comprehensive Health Planning, Missouri Department of Community Affairs, February 1971. (505 Missouri Blvd., Jefferson City, Missouri 65101).

A conceptual model for a health care system with all primary care components within one hour's travel time of all state residents.

- Lave, Judith; Lester Lave and Samuel Leinhardt. "A Model for Delivering Medical Services to the Urban Poor." Pittsburgh, Pennsylvania: Graduate School of Industrial Administration, Carnegie-Mellon University, 1971.

The paper first discusses reasons for government intervention and criteria for policy objectives, the factors that influence demand, and the characteristics of supply. The factors that influence demand are health status defined in terms of symptom severity, perception of need and efficacy of medical care, and cost of getting care (broadly defined to include non-economic factors). The paper then elaborates upon the relationships between the factors that influence demand and uses the analysis as a basis of a model for providing medical services more efficiently to the poor. The model is based on a tiered system with three different interrelated settings: outreach station, clinic, inpatient care. The efficiency of the system is maximized by relating total expenditures to health status. A linear model is used to minimize the level of expenditures at any selected level of health status. (The crucial variables are the extent and nature of referrals between the outreach station and the clinics).

Mid-South Medical Center Council for Comprehensive Health Planning. "Planning for Ambulatory Care in Crittenden County, Arkansas; Desoto County, Mississippi, and Shelby County, Tennessee." Memphis, Tennessee: Mid-South Medical Center Council for Comprehensive Health Planning, 1970. (1200 Medical Center Towers Bldg., 969 Madison Avenue, Memphis, Tennessee 38104).

Witherill, L.A., Warren Sayers et al. "The Delivery of Ambulatory Care - Administration and Innovations." Comprehensive Health Planning, Department of Public Health, California. (576 Office Bldg. #6, 744 "P" Street, Sacramento, California 95814).

3. DESCRIPTIONS AND EVALUATIONS OF AMBULATORY CARE SERVICE SETTINGS

Bush, Ann S. Group Practice; Planning and Implementing a Community-wide Prepayment Plan. New York, New York: New York State Planning Commission, Office of Planning Services, September 1971. (355 Lexington Avenue, New York, New York 10017).

This report presents an extensive review of all aspects of group practice. First, the report discusses nationwide trends in the development of group practices, provides definitions of various arrangements for providing services in a group context, and argues the relative advantages and disadvantages of group practice to both the consumer and the physician. The report then focuses on multi-speciality, community-wide, prepaid group practices. It discusses trends in the development of this type of group and the willingness of different institutions to become involved, describes each of the existing plans (16 at the time of publication), and outlines the considerations that should be made in the planning and implementation of this kind of group practice. The appendix exhibits documents illustrating different types of group agreements and contains an extensive bibliography.

Data Collection Panel. "Neighborhood Based Ambulatory Health Centers, Draft." Miami, Florida: Comprehensive Health Planning Council of South Florida, 1969. (3000 Biscayne Blvd., Suite 312, Miami, Florida 33137).

Eberhart, Thomas. "A Study of Selected Ambulatory Health Care Services in Florida." Staff Report for Florida House Committee on Health and Rehabilitative Services. (State of Florida Department of Health and Rehabilitative Services, Division of Planning and Evaluation, Bureau of Comprehensive Health Planning, 908 S. Bronough, Tallahassee, Florida 32304).

This report contains discussion about the role of different types of ambulatory care service settings, a review of five major studies comparing different service settings (located Kansas, Portland, and Boston), and a report of findings from a survey that compared 61 emergency rooms and 24 outpatient departments in Florida. The survey included a question on the relationship between patient capacity and the effectiveness of their operations.

Health Planning Association of the Central Ohio River Valley (CORVA). "CORVA - Model Cities Health Planning Project," "Pilot City Health Center," "West End Neighborhood Health Center," "Work Program - Mt. Auburn Health Center, Inc." Cincinnati, Ohio: c. 1971. (4th Floor, Alms & Doepke Bldg., 222 E. Central Parkway, Cincinnati, Ohio 45202).

A series of proposals for three neighborhood health centers. They describe the scope of services to be provided and the methods that will be used to provide them. They also have budgets and timetables for staff training and introduction of services. The proposal for the Pilot City Health Center contains definitions of the duties, responsibilities, and qualifications of each staff member and provides short and long range objectives for each staff member as well as the means for evaluating progress towards these objectives.

Health Planning Association of the Central Ohio River Valley (CORVA). "The Cincinnati General Hospital Proposed Phase III (Outpatient) Construction Program." Cincinnati, Ohio: c. 1970. (4th Floor, Alms & Doepke Bldg., 222 E. Central Parkway, Cincinnati, Ohio 45202).

An ambulatory care study designed to provide an information base to make short and long run plans and to evaluate a specific proposal in terms of these plans. The study collected information on local outpatient and emergency rooms, health department clinics, neighborhood health centers, and private physician offices. The report uses descriptive information in conjunction with aggregate data on patient origin, number of visits, manpower utilization, and care costs. Information was also gathered on the "team approach" to comprehensive family health as practiced in Boston, Rochester, and New York City.

Hospital Review and Planning Council of Southern New York, Inc., Division of Medical Services. "Ambulatory Care Study, Preliminary Report on Clinic Activity and Time Study." New York: 1967.

Report is concerned with measurement of time parameters in outpatient clinics as a way of arriving at comparable descriptions of the qualitative aspects of care. The report discusses some of the findings of an eight hospital study on waiting time (in the area of the clinic session) and patient time with physicians. These findings were analysed by hospital, specialty, existence of an appointment, and function of visit (e.g. screening, prescription, etc.). The study also gathered but did not report information relating time parameters to staffing patterns and multiple use of examining rooms. This report also discusses the general problems of qualitative measurement, selection and interpretation of indices, and study administration (e.g. training hospital staffs for participation).

Liebman, Judith S.; James A. Reuter and Louis F. Ruter. "Using a Computer Simulation to Evaluate Ambulatory Care Alternatives." Baltimore, Maryland: Johns Hopkins University, 1972.

Manrad, Barbara Bolling. "Ambulatory Health Care in the Greater Bangor Area, Notes and Comments, 1972." Bangor, Maine: Penobscot Valley Regional Health Agency, 1972. (P.O. Box 672, Bangor, Maine 04401).

A well-documented three part report. The first part describes the Family Health Center Grant Program in detail, traces the development of the family health center concept, and describes past experiences nationwide with "free clinics" and "neighborhood health centers." The second part evaluates the need for a family health center in the Bangor area. The final section evaluates the existing "free clinic" in Bangor and makes recommendations concerning its future.

Michigan Association for Regional Medical Programs. "Staff Summary Demonstration of Comprehensive Health Care for the Urban Poor, Wayne County General Hospital." East Lansing, Michigan: March 1970. (Suite 200, 1111 Michigan Avenue, East Lansing, Michigan 48823).

A short summary of criteria to be used to compare and evaluate a traditional episodic care system with a comprehensive health care system in terms of effectiveness, efficiency, and the feasibility of compensating for the shortage of physicians and nurses by using a new category of health worker.

Michigan College of Osteopathic Medicine, Department of Community Medicine. "Proposal for Lakeside Comprehensive Health Service Delivery System," March 1970, submitted through Ziegler/Botsford RMP (Michigan Association for Regional Medical Programs, Suite 200, 1111 Michigan Avenue, East Lansing, Michigan 48823).

Proposal for a comprehensive health center that contains an excellent conceptualization of the relationship between goals, objectives, and programs. The proposal defines and specifies goals (broad policy directions), objectives (the means for implementing goals - 16 are listed), and program approaches (the specific means for operationalizing objectives). The proposal is unique in that criteria and methodologies for evaluating the ability of the program to meet each criteria are specified in advance.

Mid-State Committee on Area-wide Health Planning. "Ambulatory Care a Physician Needs Report," October 1971, Ottilia Nesbit, consultant. (800 Park Avenue, Utica, New York 13501).

A three part report. The first section defines ambulatory care and describes a study done of urban and suburban emergency rooms. The second section describes the role community health centers in providing ambulatory care. The third section describes a mail survey of physician offices and makes projections of physician manpower needs.

Model Neighborhood Comprehensive Health Program, Inc. "Program for Community Health Services Coordinators", October 1970. (Michigan Association for Regional Medical Programs, Suite 200, 1111 Michigan Avenue, East Lansing, Michigan 43323).

Norton, John W. "Staff Report of the State Health Planning Agency to the Ad Hoc Ambulatory Care Study Committee." Augusta, Maine: State Health Planning Council, August 1972. (State House, Augusta, Maine 04330).

Staff report concerning health problems, legislation, and alternative components for delivering ambulatory care in Maine. The report also reviews and evaluates in detail nationwide experiences with private clinical laboratories and free-standing ambulatory care centers ("surgicenters"). The report focuses on the cost, efficiency, quality, and regional impact of these two types of service components.

Oakes, Charles G., editor. Functional Elements of Outpatient Services. Proceedings of a conference sponsored jointly by Converse College and the South Carolina Hospital Association, Spartanburg, South Carolina: Converse College, March 1971.

This report contains four papers representing the viewpoints of a physician, a nurse, a medical sociologist, and a hospital administrator. The first two papers discuss the role of the outpatient clinic in providing ambulatory care. The third paper analyses and evaluates the utilization, structure (size, speciality, and staffing patterns), and appointment system of a large community hospital in midsouthern metropolitan area. The fourth paper discusses ways to make outpatient clinics a major focal point of ambulatory care by extending services into the community.

Rising, E.F.; R. Baron and B. Averill. "Systems Analysis of a University Health Service Outpatient Clinic." University of Massachusetts, May 1971.

Case study on the use of mathematical-computer models to develop operating policies for an outpatient clinic. The model was based on analysis of patient arrival patterns (walk-ins, appointments, and emergencies) and the scheduling of examining rooms and manpower (physicians and nurse practitioners). Service capacity was matched with demand by using queuing theory and Monte Carlo simulation to schedule appointment periods and physician hours to complement the arrival patterns of walk-in patients. The predictions of the model were used to make actual policy changes, and the subsequent results (reductions in walk-in waiting time, gains in physician productivity and satisfaction, and an increase in the amount of time spent with each patient) demonstrated the validity of the method. One of the most interesting simulations in this paper analysis was the impact of physicians time lost (extended coffee breaks, emergencies, etc.) on the flow of patients through the system.

Speller, M.D. Secretary of Health, Pennsylvania. "A Program to Deliver Comprehensive Health Services to Medically Deprived Areas." (State Capital, Harrisburg, Pennsylvania 17120).

A proposed State program to establish outpatient medical facilities in rural areas staffed by at least four family practice physicians. This proposal spells out standards for these facilities and incentives for implementation.

State Office of Comprehensive Health Planning in Collaboration with the Health Problems and Needs Committee of the Advisory Council for Comprehensive Health Planning. Directory of Personal Health Services in South Carolina, 1971. Columbia, South Carolina: South Carolina Department of Education and South Carolina Board of Health, 1971. (2600 Bull Street, Columbia, South Carolina 29201).

Inventory of a broad range of health services provided by governmental, private, and voluntary agencies throughout the state. The report covers all but inpatient services of hospital and other facilities. The format of the report is excellent and provides the following types of information: What the agency is, what services are provided, where the services are available; who can receive the services, and how and when the services can be obtained.

Whitson, Robert K. and C. William Fowkes, Jr. "Evaluation of Multiphasic Screening - - A Model." Stanford, California: Stanford University, School of Medicine. (703 Welch Road, Suite G-1, Palo Alto, California 94304).

A study evaluating multi-phasic screening that relates screening findings to subsequent diagnoses, treatment received, and improvements in health status. One of the central concerns of the study was the extent to which patients responded to the screening and sought further diagnosis, treatment, and/or follow up.

Zieger-Botsford Hospitals. "Stroke Day Care Center, Martin Place Hospital East." Farmington, Michigan: January 1971. (Michigan Association for Regional Medical Programs, Suite 200, 1111 Michigan Avenue, East Lansing, Michigan 43323).

A proposal to create a stroke day care center. Very good specification of program objectives and the methodologies that will be used for implementation and evaluation of implementation.

4. INVENTORIES AND EVALUATIONS OF AMBULATORY CARE SERVICES

Comprehensive Health Planning Council of South Florida. "Ambulatory Health Services for Children in Dade County, Draft." Miami, Florida: July 1970. (3000 Biscayne Blvd., Suite 312, Miami, Florida 33137).

An inventory of ambulatory care programs for children operated by public, voluntary, and educational institutions. It lists the name, location, purpose, staffing size, target group, and number of individuals served by each program.

Comprehensive Health Planning Council of South Florida. "Existing Primary Health Care Services in Dade County, Draft." Miami, Florida: April 1972. (3000 Biscayne Blvd., Suite 312, Miami, Florida 33137).

An inventory that describes the distribution of population, poverty areas, sources of care for those who can pay, and sources of care for those who are poor.

Comprehensive Health Planning Council of South Florida. "Neighborhood Based Ambulatory Health Centers, Draft." Miami, Florida: 1969. (3000 Biscayne Blvd., Suite 312, Miami, Florida 33137).

An inventory that briefly describes each ambulatory care health center and then provides tables that compare the different facilities in terms of major activities, diagnostic capacity by morbidity and stage of treatment (e.g. prevention, early detection, treatment, etc.), staffing patterns (full and part time), financial support, number of patients and visits by type of service provided, referral sources, and patient eligibility requirements.

Health Planning Association of the Central Ohio River Valley (CORVA). "The Cincinnati General Hospital Proposed Phase III (outpatient) Construction Program." Cincinnati, Ohio: c. 1970. (4th Floor, Alms & Doepke Bldg., 222 E. Central Parkway, Cincinnati, Ohio 45202).

An ambulatory care study designed to provide an information base to make short and long run plans and to evaluate a specific proposal in terms of these plans. The study collected information on local outpatient and emergency rooms, health department clinics, neighborhood health centers, and private physician offices. The report uses descriptive information in conjunction with aggregate data on patient origin, number of visits, manpower utilization, and care costs. Information was also gathered on the "team approach" to comprehensive family health as practiced in Boston, Rochester, and New York City.

Metropolitan Chicago Comprehensive Health Planning, Inc. "Cook County Out-Patient Survey, preliminary draft." Chicago, Illinois: 1971. (600 S. Michigan Avenue, Suite 1310-1315, Chicago, Illinois 60605).

Survey that describes and evaluates ambulatory services of Cook County using existing sources of data. The paper explores the ranges of services available in different settings and makes comparisons in terms of cost, staffing patterns, and sponsorship. The survey covers the limitations of existing data and the problems of data collection, and also does a good job of specifying criteria for evaluating services.

Metropolitan Health Planning Corporation. Glenville: A Health Profile. Cleveland, Ohio: September 1971. (908 Standard Building, Cleveland, Ohio 44113).

This first of a series of community inventories of health services done in the format of a health profile. It lists the names, specialties, office addresses, and hospital affiliations of all physicians; the names and office addresses of all dentists; and the name, location, and funding all other health facilities (including bed capacity where relevant). Separate maps are used to show the location of physician offices, dentist offices, and other health facilities. In addition the report contains a profile of the areas social and demographic characteristics and basic health information (vital statistics, mortality rates, and hospital discharges).

Metropolitan Health Planning Corporation. Health Facilities Inventory of Hospitals, Nursing Homes, and Rest Homes, 1970. Cleveland, Ohio: December 1971. (908 Standard Building, Cleveland, Ohio 44113).

An annual inventory of facilities in the Cleveland SMSA using state registration and licensure data. The report contains summary and individual facility data on utilization and capacity designation, maps showing the location of each facility, and directory listings.

State Office of Comprehensive Health Planning in Collaboration with the Health Problems and Needs Committee of the Advisory Council for Comprehensive Health Planning. Directory of Personal Health Services in South Carolina, 1971. Columbia, South Carolina: South Carolina Department of Education and South Carolina Board of Health, 1971. (2600 Bull Street, Columbia, South Carolina 29201).

Inventory of a broad range of health services provided by governmental, private, and voluntary agencies throughout the state. The report covers all but inpatient services of hospitals and other facilities. The format of the report is excellent and provides the following types of information: What the agency is, what services are provided, where the services are available; who can receive the services, and how and when the services can be obtained.

5. INFORMATION SYSTEMS FOR AMBULATORY CARE

Ad Hoc Committee on Ambulatory Data Systems, Council on Education and Manpower. "Susquehanna Valley Regional Medical Program Summary of Application for Funds." Susquehanna Valley Regional Medical Program, 1972. (1104 Fernwood Avenue, Camp Hill, Pennsylvania 17011).

Proposal to develop a cooperative information system for three hospital-linked family practices. The purpose of the system is to provide information for management, evaluation, and planning. Proposal covers in detail the timing, budgeting, and evaluation aspects of developing the system and the type of information that will be collected on a standardized form.

Fetter, Robert B. "Planning Models for Health Care Systems." New Haven, Connecticut: Yale University.

Summary of a two-step model for a planning system. The first step uses simulation to model the interaction between supply and demand in terms of resource consumption along various utilization "paths" in a hospital. The second step uses linear programming to allocate resources in terms of economic and non-economic criteria.

Office of Ambulatory Services, Yale-New Haven Hospital and the Department of Epidemiology and Public Health, Yale University School of Medicine. "An Ambulatory Service Data Service." Arlington, Virginia: U.S. Department of H.E.W., P. H.S., Health Services and Mental Health Administration Community Health Service, Division of Health Care Services, 1969.

Describes work done at the Yale-New Haven Medical Center to develop an information system for outpatient services. The publication tells how to establish an information system that uses routine records instead of special studies as its data base. The process involves the development of five different systems of data which are collected separately and later merged by computer. The five systems are: Demographic and socio-economic characteristics, diagnostic and therapeutic information, utilization of services and facilities, service costs, and attitudes of patients concerning their care and treatment. The publication indicates how the data should be collected, processed, pretested, stored, tabulated, and reported. It also discusses applications of the information in evaluation, management, and research. The report is very detailed and includes forms, justifications for asking each item of information, categories for classifying and coding information, and formats for reports and cross-tabulations.

Rising, E.F.; R. Baron and B. Averill. "Systems Analysis of a University Health Service Outpatient Clinic." University of Massachusetts, May 1971.

Case study on the use of mathematical-computer models to develop operating policies for an outpatient clinic. The model was based on analysis of patient arrival patterns (walk-ins, appointments, and emergencies) and the scheduling of examining rooms and manpower (physicians and nurse practitioners). Service capacity was matched with demand by using queing theory and Monte Carlo simulation to schedule appointment periods and physician hours to complement the arrival patterns of walk-in patients. The predictions of the model were used to make actual policy changes, and the subsequent results (reductions in walk-in waiting time, gains in physician productivity and satisfaction, and an increase in the amount of time spent with each patient) demonstrated the validity of the method. One of the most interesting simulations in this paper analysis was the impact of physicians time lost (extended coffee breaks, emergencies, etc.) on the flow of patients through the system.

6a. AMBULATORY CARE PLANNING RESEARCH DESIGNS: GENERAL

Gavett, William T., and Arthur R. Jacobs. "Ambulatory Case Classification and Ambulatory Care Planning." Rochester, New York: The University of Rochester, The Graduate School of Management, 1971.

This paper devises a classification system for medical care visits that relates the complexity of the sickness to the complexity of the resources needed to treat it. It proposes the use of three categories of visits as the basis for three types of service settings, each representing a different mix of manpower in terms of specialization. One major concern of the paper is primary care services provided at the entry point to the medical care system and the use of "physician expenders" in bipartite ER departments and group practice.

Governor's Advisory Council for Comprehensive Health Planning. Handbook for Health Activities and Service Profile, First Version. Jefferson City, Missouri: Office of Comprehensive Health Planning, Missouri Department of Community Affairs, March 1972. (505 Missouri Blvd., P.O. Box 1157, Jefferson City, Missouri 65101).

A handbook of questions to be answered when inventorying, evaluating, planning health care services.

Health Planning Association of the Central Ohio River Valley (CORVA). "The Cincinnati General Hospital Proposed Phase III (outpatient) Construction Program." Cincinnati, Ohio: c. 1970. (4th Floor, Alms & Doepke Bldg., 222 E. Central Parkway, Cincinnati, Ohio 45202).

An ambulatory care study carried out to provide an information base to make short and long run plans and to evaluate a specific proposal in terms of these plans. The study collected information on local outpatient and emergency rooms, health department clinics, neighborhood health centers, and private physician offices. The report uses descriptive information in conjunction with aggregate data on patient origin, number of visits, manpower utilization, and care costs. Information was also gathered on the "team approach" to comprehensive family health as practiced in Boston, Rochester, and New York City.

McCoy, Mack. "Ambulatory Health Care Facilities, State Policy Study, Status Paper, Draft No. 1." Maryland CHP Agency 1972. (Suite 825, Medical Arts Bldg., 101 W. Read Street, Baltimore, Maryland 21201).

This paper raises the question of how definitions relate to the conceptualizing of research on ambulatory care and how definitions shift with different points of view (e.g. provider, consumer). The paper reviews definitions in the literature and suggests three points of view from which research could be done: speciality, facility, and a modified facility view.

Tri-State Regional Medical Program and CHP Council of Central Massachusetts. "Protocol for Ambulatory Review", 1971. (Medical Care and Education Foundation, Inc., 1 Boston Place, Suite 2248, Boston, Massachusetts 02108).

Operational definitions of primary and other types of ambulatory services that were used in an ambulatory care review of 19 hospitals in the Worcester County area. (The analysis for this study is currently being completed by the CHP council).

6b. AMBULATORY CARE PLANNING RESEARCH DESIGNS: SURVEYS AND QUESTIONNAIRES

Areawide and Local Planning for Health Action (ALPHA). "Family Health Activity Case Studies," 1972. (1010 James Street, Syracuse, New York 13203).

This household survey uses a background questionnaire and log to learn how families manage various health related problems. The background survey provides the following kinds of information: demographic and socio-economic data (family composition, education, occupation and income), perception of health problems, types of health problems, availability and accessibility of medical resources. The log records the incidence of and response to health problems as they occur over a future time period. Specifically, this log seeks to determine the types of medical problems families have and which problems prompt families to seek medical care. This method avoids the usual problems associated with health surveys which ask respondents to remember what they have done about medical problems in the past.

Areawide and Local Planning for Health Action (ALPHA). "Southern Cayuga County - Health Needs Survey", 1972. (1010 James Street, Syracuse, New York 13203).

A community organized mail survey in a rural area. In addition to the findings of the survey, the report discusses organizational problems (community participation, limited resources) and procedures for data collection and analysis. In addition to obtaining basic socio-demographic data, the survey asked about existence and location of family doctors, utilization of medical care (including services for the elderly and preventative care), health expenditures, inability to see a doctor or received other kinds of care, sources of help during sickness, attitudes about new forms of service (centralized centers and use of non-physician manpower), family and community health needs, and interest in attending a meeting to discuss survey results.

Health Systems, Incorporated. "Program Management Plan for Health Survey, Treasure Valley, Idaho, Oregon," August 14, 1972. (Suite 201, 3131 West State Street, Boise, Idaho 83703).

As a part of their Experimental Health Services Delivery System Grant, Health Systems, Incorporated is planning to conduct a telephone survey for the Treasure Valley area in southwest Idaho and southeast Oregon. Hospital Service Areas (HSA's) derived from a 1968 patient-origin study are used as sampling areas. The sample over-represents rural areas. In an effort to overcome the bias resulting from the fact that 16% of the sample area do not have telephones, this survey plan will supplement the telephone interviews with personal interviews. The cost estimates of two alternative survey strategies are also presented.

- ' Hughes, Edward C. "Rural Health Planning...a basement membrane model." Syracuse, New York: Community Medical Services, June 1971. (678 W. Onondaga Street, Syracuse, New York 13204).

This paper argues for a micro (or "basement") approach to planning. The paper first presents macro data (demographic data, economic base, and physician-population ratios) in Mid-State New York and discusses the problems of relying on such data for planning. The paper then presents its findings from surveys of providers and consumers. The provider survey was a mail survey of physicians, and asked physicians about the nature of their current practices (e.g. load, "coverage," service area, etc.); their attitudes towards their communities, its health facilities, its career opportunities, and its manpower needs; their preference for types of practice and continuing education; and the impact of Medicare and Medicaid on their practices. The consumer survey involved both a household survey and a survey of community leaders. In addition to socio-demographic and utilization information, the survey asked about referrals and preventive care, first aid training, willingness to travel for care, shopping patterns, participation in Medicare and Medicaid, and evaluation of need for more medical manpower. The survey also probed about the existence of a family physician (e.g. how was he chosen, what is important in evaluating a physician, who would be called in different medical situations, the kind of doctor most relevant to the family's needs, etc.).

- Memphis Regional Medical Program for Heart Disease, Cancer, Stroke, and Kidney Disease. "Household Health Survey," Memphis, Tennessee. (1300 Medical Center Towers, 969 Madison Ave., Memphis, Tennessee 38104).

In addition to usual socio-demographic and utilization questions, this survey probes for utilization of preventive health services, knowledge about availability of services, and attitudes about health in general. It also has good questions about attitudes towards care; qualities valued in the care received; the disabilities for which care would be sought; and the extent to which finances, transportation, physician attitudes, and availability of services are viewed as constraints to obtaining care.

- Metropolitan Chicago Comprehensive Health Planning, Inc. Chicago Hospital Council, and Association of Administrators of Ambulatory Services. "Outpatient Resource Survey", November 1971. (600 S. Michigan Ave., Suite 1310-1315, Chicago, Illinois 60605).

Survey of outpatient facilities. Survey covers service areas, clinic operations (including special questions on mental health), staffing patterns, financial affairs (including questions on reimbursement problems and the relationship of outpatient costs and revenues to other hospital costs and revenues), planning, and emergency room operations (type, staffing patterns, costs, etc.).

Meuller, Heinz F. "Colorado Health Consumer Survey--A Regional Analysis." Colorado-Wyoming Regional Medical Program, 1971. (Suite 410, Franklin Medical Building, 2045 Franklin Street, Denver Colorado 80205).

A report that presents data on population and health care system characteristics, utilizations patterns, health expenditures and methods of payment, inter and intro regional flow patterns, and consumer satisfaction. Most of the report was based on household survey by mail which asked questions about socio-demographic information, residential location and length of residence, utilization of preventive and curative services (physicians, dentists, hospitals), location and distance to various types of services, how regularly used facilities were selected, the types of facilities and services most helpful to the household, knowledge of warning signs and preventive measures for diseases (also attitudes about preferred methods of learning), action that would be taken for emergencies in home and on the road, satisfaction with care received (including waiting time for appointments), and cost and financing of care received. The report also discusses the problems of sample selection and administration in mail surveys.

Mid-State Committee on Area-wide Health Planning. "Ambulatory Care a Physician Needs Report", October 1971, Ottilia Nesbit, consultant. (800 Park Ave., Utica, New York 13501).

A three part report. The first section defines ambulatory care and describes a study done of urban and suburban emergency rooms. The second section describes the role community health centers in providing ambulatory care. The third section describes a mail survey of physician offices and makes projections of physician manpower needs.

National Analysts, Inc. "Health Care Study." Philadelphia, New Jersey: October 1970.

An extensive household health care survey covering patient utilization of a broad range of health services ranging from hospital care and dental care to the purchase of prescriptions. Also provides information about referrals and follow-up. The survey does not ask for diagnostic information but relies on a patients evaluation of his health to control for morbidity (it does, however, ask to look at patient records, if any, at local Neighborhood Health Centers). The survey probes for a qualitative evaluation of services used, why other services were not used, the importance of continuity in care, and the kinds of services respondents feel they need.

NY-Penn Health Planning Council. "Community Health Survey", 1972. (306 Press Bldg., 19 Chenango Street, Binghamton, New York 13902).

A very intensive household survey divided into six modules: demographic, existing services, dental care, current health status, emergency care, mental health. The survey is especially interested in knowledge of services, utilization, problems preventing utilization, transportation, location of services, time needed to get care (e.g. appointment time, waiting time, time for emergency vehicle to arrive, etc.), satisfaction, and additional service needs. The health status module is most intensive asking about a wide range of primary, home, old age, and preventive care services and attitudes about community health problems. The mental health module is also quite detailed. The survey provides for extensive coding on open-ended questions.

Ohio Valley Regional Medical Program. "OVRMP Health Survey Questionnaire." (1718 Alexandria Drive, P.O. Box 4025, Lexington, Kentucky 40504).

A household survey concerned with utilization of hospital beds, emergency rooms, physicians, dentists, rehabilitation services, maternity services, and other health services. In addition to asking about medical problems and utilization, the survey asked about the use of prescribed medicine, means of payment, and outstanding bills. It also asks about conditions for which physician care was not sought, why it was not sought, and what, if anything, was done about the condition. There are also questions about checkups, missed appointments, missed work or school, the kinds of conditions for which care might be sought, the reasons for not seeking physician care when one should, and attitudes about different factors patients use to evaluate care.

Pfotenhauer, Bob. "A Synopsis - The Tacoma Health Delivery System - A Comparative Study: Low and Middle Income Consumers." Tacoma, Washington: The Tacoma Area Urban Coalition, 1971. (Winthrop Hotel, Tacoma, Washington 98402).

Household survey of medical service utilization. This report provides details on sample selection and presents findings. The major variables were: demographic data; income; household size; utilization of public health services, emergency rooms, physicians, and other health personnel; ability to get a doctor; transportation; and patient satisfaction.

South Central Connecticut Comprehensive Health Planning, Inc. "Bethany Woodbridge Health Questionnaire," May 1972. (495 Orange Street, New Haven, Connecticut 06511).

A short survey that asks about availability of care (medical, dental, and maternity), utilization, why care was not sought, care needed but not available (for medical care and other health related family problems), and service setting preferences.

6c. AMBULATORY CARE PLANNING RESEARCH DESIGNS: SYSTEM MODELS, HEALTH STATUS, AND EVALUATION

Abernathy, William J. and John R. Moore, Jr. "Regional Planning of Primary Health Care Services." Stanford, California: Stanford University, Graduate School of Business Research Paper Series, Paper No. 1, July 1971.

This paper proposes a two stage method for utilization research. The unit of analysis for this method is the family and the research goal is to evaluate the factors that influence decisions by family members to seek medical care. In the first stage, groups with relatively homogeneous utilization behavior are identified using cluster analysis techniques. The second stage uses a stepwise multiple linear regression analysis to evaluate the relative importance of the independent variables on each group. The study focused on a California agricultural community of 3,000 families and used census data. In the future the researchers plan to use a sample survey. The advantage of this methodology is that 1) it frees one from the scalar requirements of regression analysis in the initial determination of groups and 2) it enhances the predictive power of regression techniques. An essential feature of this method is that it allows one to use a simple and direct measure of utilization to identify target populations.

Anderson, James G. "A Structural Equation Model of a Health Care System," Working paper #52. LaFayette, Indiana: Institute for the Study of Social Change, Department of Sociology and Anthropology, Purdue University, 1972.

A simultaneous equation model for the health care system serving the state of New Mexico is presented. The model includes 1) a network specifying the casual relationships hypothesized as existing among a set of social, demographic, and economic variables known to be related to the supply of health manpower and facilities and to their utilization; 2) a set of mathematical equations which permits the prediction of the effects of changes in the values of any one variable on all other variables in the model; and 3) estimates of the model parameters based on data obtained from the U.S. Census and the annual Guide Issue of Hospitals, Journal of the American Hospital Association. The model can be used to provide information about the impact that changes in the structure of the population will have in the supply of health manpower and facilities. The paper also contains a good bibliography and a short literature review of past attempts to model health care systems.

Bush, J.W.; Milton M. Chen and Donald L. Patrick. Health Index Project. La Jolla, California: Department of Community Medicine, University of California, San Diego.

This project has produced excellent work on the development and application of health status indicators in planning and evaluation. The index developed by the project uses functional adequacy and prognosis to evaluate the relative importance of different morbidities. Recent publications of this project include:

"Social Indicators for Health Based on Function Status and Prognosis," 1972.

"Measuring Levels of Well-Being for a Health Status Index," July 1972.

"Cost-Effectiveness Using a Health Status Index: An Analysis of the New York State Phenylketonuria Screening Program," September 1972.

The Connecticut State Medical Society. "Proposal For a Connecticut Ambulatory Care Study," HSM 110-MP-48(2), 1972. (160 St. Ronan Street, New Haven, Connecticut 06511).

A direct and clear statement of a methodology to be used for studying and evaluating medical care utilization in provider settings. The proposal which is concerned with primary care, discusses the use of panels of experts to develop standards of quality care and outlines a methodology (specifying techniques, sampling units, sample size, and data categories) to study utilization and appropriateness of care in physician offices and other organized ambulatory care settings. Part of the study will involve determining the best mechanisms for making use of evaluative data. Good bibliography.

Edwards, Sam A. et al. "Towards a Health Services Simulator, An Interim Report." San Antonio, Texas: Health Resources Planning Unit, Texas Hospital Association, Trinity University, 1971.

A simulation model for macro and micro analysis of a personal health system (as compared to a public health system). The model uses multi-variate regression to predict initial visits by morbidity category for nine age groups. It then uses simulation techniques to model the medical services in inpatient and outpatient facilities needed to meet demand. The model uses production functions to determine resource requirements and supply curves to determine the cost and availability of these resources. Finally the model uses health status indicators based on medical "outcomes" to

indicate patient's condition at any point in the medical care system. The model does not use diagnostic categories to classify morbidity. Instead it classifies morbidity in terms of institutional settings, treatment, duration, and treatment objective (e.g. cure, maintenance, screening). In addition to discussing the model's structure, the report discusses data requirements, programming, and progress made in developing various components of the model. Appendices that operationally illustrate the model's major concepts are provided. The report also contains a good literature review and bibliography of past modeling efforts.

Edwards, Sam A. et al. "Towards a Health Services Simulator, Second Interim Report." San Antonio, Texas: Health Resources Planning Unit, Texas Hospital Association, Trinity University, 1972.

Fetter, Robert B. "Planning Models for Health Care Systems." New Haven, Connecticut: Yale University.

Summary of a two-step model for a planning system. The first step uses simulation to model the interaction between supply and demand in terms of resource consumption along various utilization "paths" in a hospital. The second step uses linear programming to allocate resources in terms of economic and non-economic criteria.

Hospital Review and Planning Council of Southern New York, Inc., Division of Medical Services. "Ambulatory Care Study, Preliminary Report on Clinic Activity and Time Study." New York, New York: 1967. (3 East 54th Street, New York, New York 10022).

Report is concerned with measurement of time parameters in outpatient clinics as a way of arriving at comparable descriptions of the qualitative aspects of care. The report discusses some of the findings of an eight hospital study on waiting time (in the area of the clinic session) and patient time with physicians. These findings were analysed by hospital, specialty, existence of an appointment, and function of visit (e.g. screening, prescription, etc.). The study also gathered but did not report information relating time parameters to staffing patterns and multiple use of examining rooms. This report also discusses the general problems of qualitative measurement, selection and interpretation of indices, and study administration (e.g. training hospital staffs for participation).

Lave, Judith; Lester Lave and Samuel Leinhardt. "A Model for Delivering Medical Services to the Urban Poor." Pittsburgh, Pennsylvania: Graduate School of Industrial Administration, Carnegie-Mellon University, 1971.

The paper first discusses reasons for government intervention and criteria for policy objectives. The factors that influence demand, and the characteristics of supply are health status defined in terms of symptom severity, perception of need and efficacy of medical care, and cost of getting care (broadly defined to include non-economic factors). The paper then elaborates upon the relationships between the factors that influence demand and uses the analysis as a basis of a model for providing medical services more efficiently to the poor. The model is based on a tiered system with three different interrelated settings: outreach station, clinic, inpatient care. The efficiency of the system is maximized by relating total expenditures to health status. A linear model is used to minimize the level of expenditures at any selected level of health status. The crucial variables are the extent and nature of referrals between the outreach station and the clinics.

Liebman, Judith S.; James A. Reuter and Louis F. Reuter. "Using a Computer Simulation to Evaluate Ambulatory Care Alternatives." Baltimore, Maryland: Johns Hopkins University, 1971.

Miller, James E. "Criteria for Evaluating the Application of Health Status Indices in a Management Context." Tucson, Arizona: Office of Research and Development.

This paper is a review and evaluation of efforts in recent years to develop health status indicators. 13 different indices are evaluated in terms of their data inputs and information outputs. Inputs are evaluated in terms of three criteria: 1) data availability 2) scalar qualities 3) common denominality and comparability. Outputs are evaluated in terms of two criteria: 1) comprehensiveness and specificity 2) ability to make adjustments for age and sex. The evaluation stresses the current administrative utility of existing indices and not the conceptual worth of the indices. Nonetheless the paper presents a good overview of all the major efforts to develop comprehensive indices and contains a good discussion of the problems faced by index constructors.

Office of Comprehensive Health Planning. "An Index of Health," Office of Comprehensive Health Planning. Nashville, Tennessee: Tennessee Department of Public Health, 1972. (358 Capitol Hill Bldg., 301 Seventh Ave., N., Nashville, Tennessee 37219).

Rising, E.F.; R. Baron and B. Averill. "Systems Analysis of a University Health Service Outpatient Clinic." University of Massachusetts, May 1971.

Case study on the use of mathematical-computer models to develop operating policies for an outpatient clinic. The model was based on analysis of patient arrival patterns (walk-ins, appointments, and emergencies) and the scheduling of examining rooms and manpower (physicians and nurse practitioners). Service capacity was matched with demand by using queuing theory and Monte Carlo simulation to schedule appointment periods and physician hours to complement the arrival patterns of walk-in patients. The predictions of the model were used to make actual policy changes, and the subsequent results (reductions in walk-in waiting time, gains in physician productivity and satisfaction, and an increase in the amount of time spent with each patient) demonstrated the validity of the method. One of the most interesting simulations in this paper analysis was the impact of physicians time lost (extended coffee breaks, emergencies, etc.) on the flow of patients through the system.

Torrance, George W. "Operations Research and Health Program Evaluation: Challenges of the Future," 1972.

A conceptual analysis of the basic models for health program evaluation. The paper reviews the literature, and discusses the problems with each of the basic approaches.

Updegraff, Gail E. and Werner Kiene. "Rural Health Services Planning and Evaluation." Center for Rural Manpower and Public Affairs, Michigan State University, June 1972.

A conceptualization of how to evaluate alternative service settings using cost-benefit analysis. The model proposes to evaluate trade offs by viewing the relationship between resources and services as conceptual production functions that can be combined in a variety of ways to produce a specific service setting. These combinations are to be evaluated in terms of their input costs and output effects (i.e. impact on health status) which can be measured in terms of proxy indicators for good health. A rural area with three comprehensive clinics was chosen to test this methodology and much of the paper focuses on data and measurement problems.

Whitmore, G.A. "A Mathematical Characterization of Health-State Preferences." Montreal: McGill University.

Whitson, Robert K. and Dr. G. William Fowkes, Jr. "Evaluation of Multiphasic Screening -- A Model." Stanford, California: Stanford University, School of Medicine. (703 Welch Road, Suite G-1, Palo Alto, California 94304).

A study evaluating multi-phasic screening that relates screening findings to subsequent diagnoses, treatment received, and improvements in health status. One of the central concerns of the study was the extent to which patients responded to the screening and sought further diagnosis, treatment, and/or follow up.

Zubkoff, Michael. "An Output Concept for the Analysis of Curative Health Service." (Tennessee Mid-South Regional Medical Program, 1100 Baker Bldg., 110 21st Ave., S., Nashville, Tennessee 37203).

A conceptualization for evaluating a health system as a multi-product industry or firm. The paper is based on the idea that successful treatment (as evaluated by ability to resume normal major activities) is the economic rationale of curative services and that the costs of successful treatment should include the costs of unsuccessful treatment (i.e. the treatment rendered to those who died, were transferred out of the curative system, or were unable to return to their normal activity). To aggregate the total costs of a given health system, the costs of inpatient and outpatient care are considered separately and are evaluated for a variety of population subjects (groups representing relevant age-sex combinations of disease categories). The final output of the model allows one to evaluate alternative health systems in terms of the cost and number of effective treatments. The paper also reviews literature on conceptualizing health service outputs and discusses how data could be collected to test the method.

7. RECENT PUBLICATIONS

Eichhorn, Robert L. and Lu Ann Aday. "The Utilization of Health Services: Indices and Correlates; A Research Bibliography." Lafayette, Indiana: Purdue University, Department of Sociology. Research sponsored by the National Center for Health Services Research and Development, Office of Scientific and Technical Information, 1972. (National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151, \$3.00, PB-211 720).

Demands for dependable information on which to base national health care policy decisions have stimulated research on health services utilization, however, the conclusions about the patterns of use and their determinants to be drawn from the literature are far from clear. It is the primary purpose of this report to introduce some order in the studies of utilization. Through a comprehensive critical review of the empirical literature on health services utilization, the authors have developed: 1) a classification of health services utilization, 2) a list of operational indices commonly used to measure each type of use, 3) a summary of the most powerful predictors of various types of use and 4) a numbered bibliography with an abstract of each of the articles reviewed. In defining the term "utilization," more specific facets of health care delivery are given in the introduction. A rigorous ordering of utilization indices and correlates together with substantive findings shown in the bibliography, and summarized in tabular fashion, permit the researcher to match his research questions and to select his correlates more accurately. (Abstract from NTIS, Document No. PB-211 720).

Langston, Joann H. et al. Study to Evaluate the OEO Neighborhood Health Center Program at Selected Centers, Vols. 1,2,3. Rockville, Maryland: Geomet, Incorporated, January 1972. (National Technical Information Service System, Document No. PB-207 085).

This study tries to provide a partial, interim indication of the impact of the OEO Neighborhood Health Center Program. The study was directed toward an overall evaluation of the success of the NHC concept to this point in time in areas of health care delivery and acceptance by the communities served. This report presents the study's findings for four evaluative objectives: success in reaching target populations and the extent to which eligible persons are effectively using the health care services provided, the degree of patient satisfaction with the care provided, progress in developing a system capable of providing adequate care, and

the relationship of programmatic similarities and differences between centers to performance. The findings were based on an organizational and functional analysis of 21 Neighborhood Health Centers, a household interview survey of users and non-users of services, and an assessment of the degree to which centers are providing comprehensive and continuous health care services. Volume I of the report summarizes the findings of the evaluation analysis; the requirements, data sources, and methodology employed in the analysis of performance; the policy questions addressed in the organizational and functional analysis; and the relation of organizational and functional characteristics to performance measures. Volumes II and III contain appendices to the main report and provide details on the methodological and theoretical considerations of the study.

Parker, Alberta W. The Team Approach to Primary Health Care. Berkeley, California: The Regents of the University of California, Neighborhood Health Center Seminar Program, Monograph Series Number 3, January 1972.

To improve the delivery of health care, services need to be made more accessible. In addition they should be organized in terms of desired patient outcomes. To achieve these goals in the area of primary care, this monograph argues that a team approach is necessary. The monograph sets forth arguments to support this claim (i.e. the kinds of services a patient needs on the primary care level, the benefits of using a team, etc.), and presents a conceptual model for such a team. This model views the team as an "organism" made up of three layers, "a fixed nuclear structure surrounded by two outer layers." The nucleus provides the medical functions needed by most families and contains medical personnel who can maintain close, ongoing relationships with patients. The middle layer consists of 1) providers of medical specialty, paramedical, and adjunctive services, 2) consultants to the team, and 3) supportive services. The outer layer consists of occasional resource specialists. The monograph provides details about the organization of the nuclear structure and discusses its location, manpower, leadership, hierarchy, task assignments, and patient relationships. It also discusses the need for community organization and the lessons learned from the experiences of community health centers.

Piore, Nora; Deborah Lewis and Jeannie Seeliger. A Statistical Profile of Hospital Outpatient Services in the United States: Present Scope and Potential Role. New York, New York: Association for the Aid of Crippled Children, August 1971.

Monograph examines historical, geographical and fiscal aspects of hospital outpatient services to provide a framework for viewing the present role of these services and for assessing the potential offered by the clinics, emergency rooms and doctors' offices in the nation's hospitals for improving American health care capacity. Principal focus is the nearly 6,000 community hospitals that provide short-term general and special care. Report includes: data on changes in scope, characteristics and role of hospital-based ambulatory care from 1953-1970; current patterns of clinic and emergency room use; geographic patterns of ambulatory care; social and economic indicators and variations in patterns of hospital clinic use; urban patterns; and fiscal data on changes in revenue from hospital outpatient services. Some of the major findings are: 1) Volume of hospital outpatient visits has tripled since 1953. 2) Three-quarters of all outpatient visits are to the nearly 6,000 community hospitals. 3) Use of outpatient hospitals facilities correlates closely with population density--six states containing 40 per cent of the population account for more than 50 per cent of all visits. 4) Richer states tend to have higher use rates and poorer states have low use rates. 5) There is a significant positive correlation between outpatient use rate and physician/population ratio. (Abstract from Abstracts of Hospital Management Studies, Vol. 9, No. 1, September 1972).

Richardson, William C. Ambulatory Use of Physician Services in Response to Illness Episodes in a Low Income Neighborhood. Chicago, Illinois: Center for Health Administration Studies, University of Chicago, Research Series No. 29, 1971.

This study examines the way in which physicians' services are used by persons living in a relatively low-income area. The basic question asked is this: "Do the poverty-related characteristics of education, race-ethnicity, income, and third-party coverage interfere with receipt of prompt and continuing medical attention in the face of sickness, and do different sources of medical care differ systematically in the degree to which they encourage use of services?" The methodology involved the study of patient behavior over the course of an illness episode. The data used came from a household interview survey of the non-institutionalized civilian population of the Red Hook section of Brooklyn, New York. The information presented in the monograph provides greater precision in analyzing medical care utilization. It also provides a better understanding of the factors affecting utilization patterns of the poor which will be valuable to the researcher, planner, developer, and administrator for policy analysis and program administration. (Abstract from advertising flyer for the report).

Rosenfeld, Leonard S. Ambulatory Care: Planning and Organization. New York, New York: Health and Hospital Planning Council of Southern New York, Inc., February 1971. (National Technical Information Service, Document No. PB-204 925).

The study documents and analyzes the origins and current status of planning, organization, and administration of ambulatory care facilities and services. It is based on a literature review of medical care and related fields of public health and the social sciences and on observation of selected programs, with particular emphasis on statistical and accounting systems. The study provides assistance to those responsible for planning, organization, and administration of ambulatory care facilities. (Abstract from Government Reports Announcements, Vol. 72, No. 3, February 10, 1972).

Shortell, Stephen M. A Model of Physician Referral Behavior: A Test of Exchange Theory in Medical Practice. Chicago, Illinois: Center for Health Administration Studies, University of Chicago Research Series, No. 31, 1972.

This monograph develops and tests a model of physician referral behavior based on these factors: medical outlook and formal qualifications of the doctor to whom the patient has been referred, professional status relationships within the medical community, caseload severity, cost of care, and years of practice. The group studied includes a population of internists in private practice in the northwest suburbs of Chicago. Each internist was interviewed in-depth with subsequent follow-up. The hypotheses of the study are derived from social exchange theory, which in brief, states that an individual is motivated to interact with another in an activity if he expects associating with him will result in a positive outcome. The outcomes that two individuals or groups may achieve will be better the more rewarding to the other is the behavior each can produce, and the lower the cost at which each can be produced. If the outcomes exceed the individual's relevant comparison levels, the relationship will be highly valued and similar behavior may be expected from each in the future. Among the findings of the study are the observations that referrals flow from MD's of lower status to those of higher status and are closely restricted to physicians who have appointments at the same hospital. Patterns in regard to the reciprocal nature of referrals, social friendships, and distance between offices are also traced. Differences in rates of referral by board certification status, organization of practice and related variables are discussed in terms of policy implications. Several avenues for further investigation are suggested. (Abstract from advertising flyer for the report).

Tenney, James A. The Content of Medical Practice. A Quantitative Description of Office Based Ambulatory Practice in Saskatchewan, 1965. Baltimore, Maryland: School of Hygiene and Public Health, Johns Hopkins University, April 1970. (National Technical Information Service, Document No. PB-204 925).

To demonstrate the thesis that major components (i.e. ambulatory and office-based services) can be determined for a large general geographically defined population from routine administrative records maintained for the medical care insurance mechanism, the present study utilizing secondary data gathered from physicians for payment purposes by the Saskatchewan Medical Care Insurance Plan (MCIP) was undertaken to describe virtually the entire experience with medical practice for the large majority of the province population. Patients were classified by age, sex and residence, practices by physicians' location and specialty class, services by major categories, and diagnoses by major ISCD subject headings and Canadian List categories. The mid-year denominator population was reconstructed from ancillary sources; it represented seven-eighths of the province total, and closely resembled the general population's age-sex distribution. (Abstract from NTIS, Document No. PB-204 925).

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Battistella, Roger M. and Thomas P. Weil. Health Care Organization; Bibliography and Guidebook. Washington, D.C.: Association of University Programs in Hospital Administration, 1971.

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- No. 233. "Health Planning Applications of Operations Research Systems Analysis: A Selected Bibliography," by Thomas Dunoye, Bobbie Foote and Sue Dunoye, 1971.
- No. 261. "Physicians Assistants: A Health Manpower Planning Bibliography," by Nan Burg, 1972.
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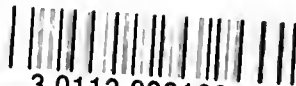
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